Remarks/Arguments:

Claim 78 has been amended. No new matter is introduced herein. Claims 78-80 and 82-85 are pending.

Claims 78-80 and 82-85 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto et al. (U.S. Patent No. 5,303,247) in view of Rakuljic et al. (U.S. Patent No. 5,691,989). It is respectfully submitted, however, that these claims are patentable over the cited art for the reasons set forth below.

Claim 78, as amended, includes features neither disclosed nor suggested by the cited art, namely:

> ... the optical wavelength conversion element is formed of a stable proton exchange layer ... the stable proton exchange layer is configured to prevent a temporal variation in the refractive index when a pseudo-phase matching condition of the stable proton exchange layer is satisfied ...

These features are disclosed, for example, at page 26, line 1 - page 27, line 26; page 31, line 14 - page 32, line 13; and page 34, lines 1-13; and Figs. 9, 10, 12 and 13 of the original specification.

Yamamoto et al. disclose, in Fig. 15, a shorter wavelength generating apparatus 51, including a semiconductor laser source 52 and an optical harmonic generating device 55 for generating a harmonic wave from a fundamental wave (col. 23, lines 33-43). The optical harmonic generating device 55, shown in Fig. 16, includes reverse polarization layers 64 that are produced according to a proton exchange process (col. 23, line 66 - col. 24, line 16). Yamamoto et al. also disclose that when the pseudo-phase matching condition is not satisfied (where the wavelength of the fundamental wave is changed), an electric field is induced in the optical harmonic generating device to change refractive indices of the polarization layers (col. 5, lines 11-21 and col. 14, lines 4-21). When the pseudo-phase matching condition is satisfied, no electric field is induced (col. 13, lines 9-13).

Yamamoto et al. do not disclose or suggest Applicants' claimed features that "the stable proton exchange layer is configured to prevent a temporal variation in the

refractive index when a pseudo-phase matching condition of the stable proton exchange layer is satisfied" (emphasis added). These features are neither disclosed nor suggested by Yamamoto et al. Instead, Yamamoto et al. establish a new phase-matching condition by forcibly changing the refractive index (by application of an electric field), when a previous-matching condition is not satisfied due to the wavelength shift. Yamamoto et al. do not disclose or suggest a configuration that prevents a temporal variation in the refractive index when a phase-matching condition is satisfied. Yamamoto et al. do not consider a problem of temporal variation in the refractive index when the phase-matching condition is satisfied. In addition, the Office Action at page 3, readily admits that Yamamoto et al. do not teach a semiconductor laser to be a distributed feedback type or that the output of the laser is to be amplified by a solid state source. Thus, Yamamoto et al. do not include all of the features of claim 78.

Rakuljic et al. disclose, in Fig. 21, a laser 90 that includes a distributed feedback (DFB) laser to pump an optical gain medium 91, "such as Er-doped optical fiber amplifiers, Er-doped fiber lasers or diode-pumped solid state lasers" (col. 17, lines 30-44). However, Rakuljic et al. do not make up for the features that are lacking in Yamamoto et al., namely, that "the stable proton exchange layer is configured to prevent a temporal variation in the refractive index when a pseudo-phase matching condition of the stable proton exchange layer is satisfied." Thus, Rakuljic et al. do not include all of the features of claim 78.

Applicants' optical wavelength conversion element includes advantages over the cited art. One of the features of the subject invention is in the preparation of the optical wavelength conversion element formed of a stable proton exchange layer. According to Applicants' invention, the stable proton exchange layer is configured to prevent a temporal variation in a refractive index, when a pseudo-phase matching condition is satisfied. Because the laser light source (via the optical wavelength conversion element) suppresses the temporal variation in the refractive index of the stable proton exchange layer, the laser source prevents a phase-matched wavelength shift when the pseudo-phase matching condition of the stable proton exchange layer is satisfied. Therefore, an optical wavelength conversion element is provided with a phase-matched wavelength that does not vary with time when the pseudo-phase

matching condition of the stable proton exchange layer is satisfied. Because the phase-matched wavelength does not vary with time, a laser light source is provided with a stabilized output. These features and advantages are neither disclosed nor suggested by the cited art. Accordingly, allowance of claim 78 is respectfully requested.

Claims 79, 80 and 82-85 include all of the features of claim 78 from which they depend. Accordingly, claims 79, 80 and 82-85 are also patentable over the cited art.

In view of the amendments and arguments set forth above, the above identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

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